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A NEW SPECIES AND NEW RECORDS OF SCHIZOMIDS
FROM THE CENTRAL COASTAL CALIFORNIA
(SCHIZOMIDA: SCHIZOMIDAE: *SCHIZOMUS*)

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ABSTRACT: A new species of schizomid, *Schizomus secoensis*, discovered in Monterey County, California, is the most northwestern member of the order Schizomida in North America. Five new records for *Schizomus belkini* (McDonald and Hogue) extend its range northward to the vicinity of San Luis Obispo, California.

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INTRODUCTION

Specimens of schizomids recently collected in Monterey County, California proved to be undescribed. This discovery is significant in that it increases the number of described species to seven for California and 10 for the continental United States, and represents the northernmost record of schizomids in the Coast Ranges of North America. *Schizomus briggsi* (Rowland, 1972), found in the Sierra Nevada of California, is the northernmost record for the order in the New World (Hom 1967; Rowland 1972a) and occurs only slightly further north latitudinally than this new schizomid.

Five specimens (one male, one female, and three juveniles) were collected by turning over much granitic talus in a moist, lush oak canyon in the northern Santa Lucia Range. This schizomid population was fairly restricted to cliff talus; a thorough search just outside of this zone yielded only one additional juvenile specimen. Collecting to the south of this location (near the town of Jolon) failed to yield schizomids until suitable

habitats in the vicinity of San Luis Obispo, San Luis Obispo County were carefully investigated. Specimens found in these locations established new northern records for *Schizomus belkini* (McDonald and Hogue, 1957).

METHODS AND DEPOSITION

The characters used in this description are mostly those used by Rowland and Reddell (1979). The genital sternites of females were withdrawn from the opisthosoma with a thin pin, cleaned with KOH, and examined in an aqueous slide mount.

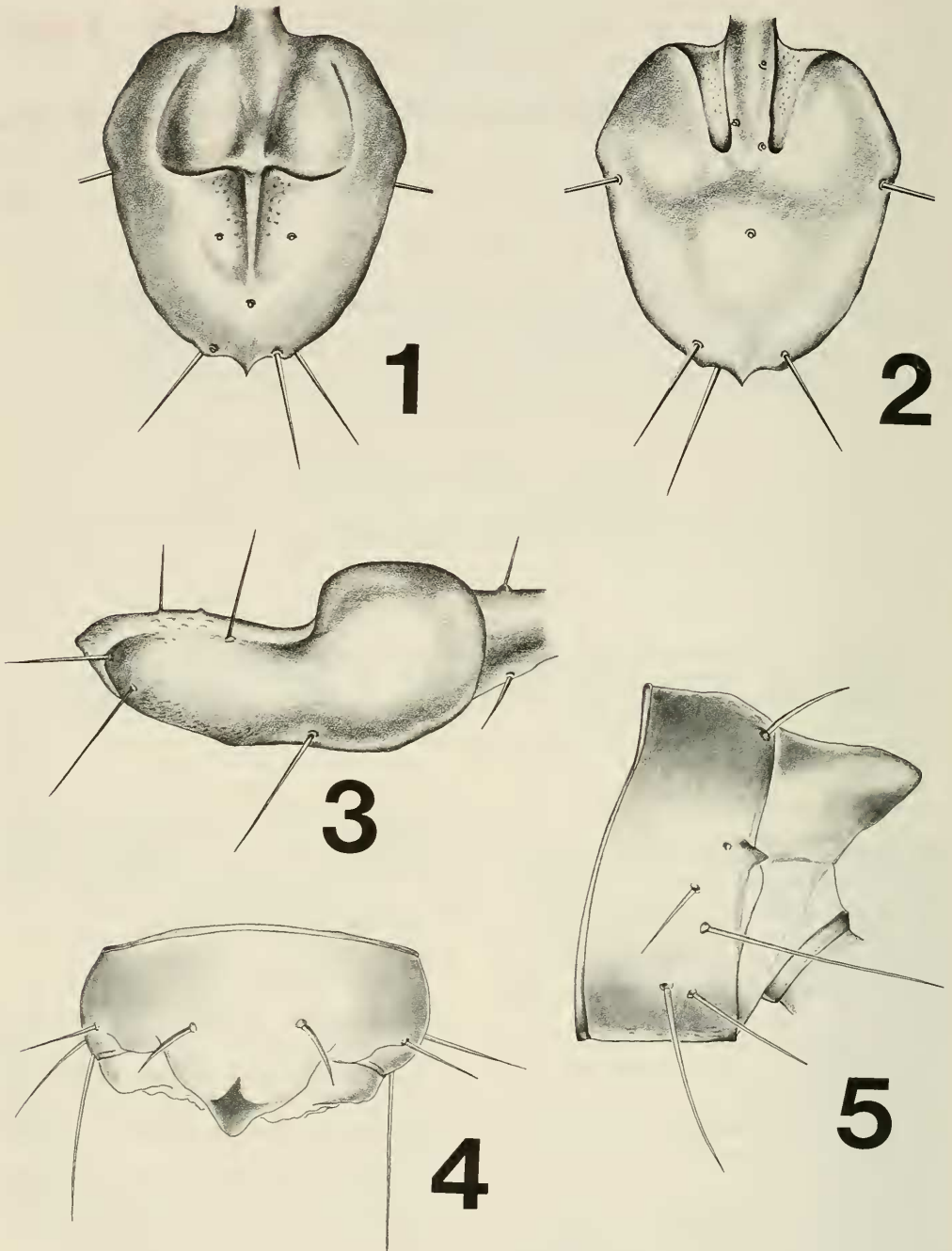
All specimens were preserved in 75% ethyl alcohol and deposited in the California Academy of Sciences.

TAXONOMIC SECTION

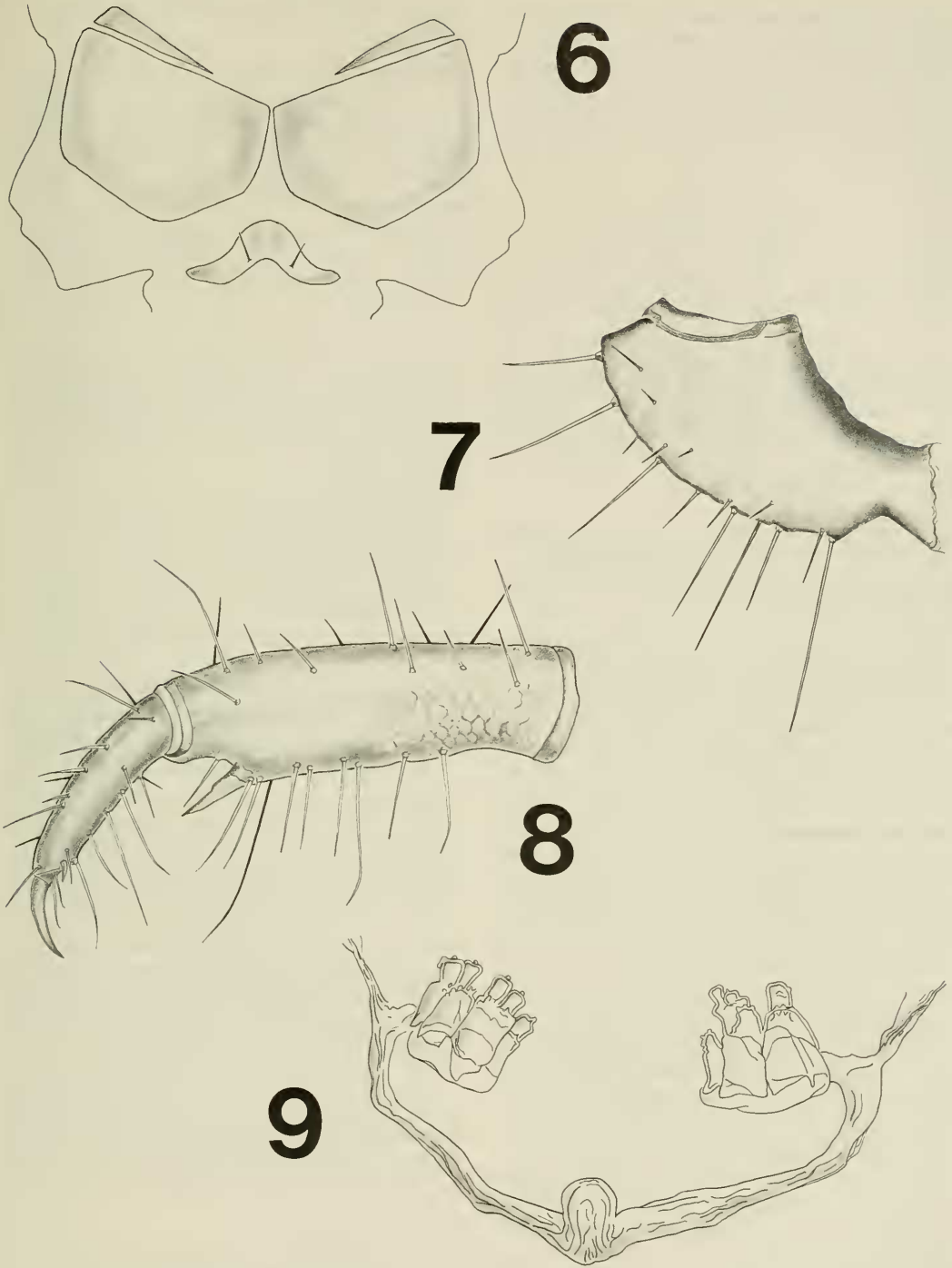
Schizomus secoensis new species

(Figures 1-9)

DIAGNOSIS.—This species belongs to the *briggsi* group of Rowland and Reddell (1981) (= *belkini*



FIGURES 1-5. *Schizomus secoensis* Briggs and Hom, new species, male holotype. Figure 1. Dorsal view of flagellum. Figure 2. Ventral view of flagellum. Figure 3. Lateral view of flagellum. Figure 4. Dorsal view of segment XII. Figure 5. Lateral view of segment XII.



FIGURES 6-9. Figures 6-8. *Schizomus secoensis* Briggs and Hom, new species, male holotype. Figure 6. Mesopeltidium and metapeltidium. Figure 7. Ectal view of pedipalpal trochanter. Figure 8. Ectal view of pedipalpal tibia. Figure 9. Female spermathecae of *Schizomus secoensis*.

TABLE 1. MALE APPENDAGE MEASUREMENTS IN MILLIMETERS.

	I	II	III	IV	Pedi- palp
Trochanter	0.30	0.20	0.20	0.33	0.33
Femur	1.17	0.83	0.73	1.07	0.50
Patella	1.43	1.17	0.33	0.43	0.63
Tibia	1.07	0.50	0.40	0.83	0.50
Basitarsus	0.37	0.50	0.50	0.73	0.33
Tarsus	0.57	0.43	0.43	0.43	0.33
Total	4.91	3.63	2.59	3.82	2.29

TABLE 2. FEMALE APPENDAGE MEASUREMENTS IN MILLIMETERS.

	I	II	III	IV	Pedi- palp
Trochanter	0.33	0.17	0.17	0.33	0.33
Femur	1.13	0.80	0.69	1.13	0.53
Patella	1.33	0.47	0.40	0.53	0.51
Tibia	1.00	0.53	0.44	0.84	0.40
Basitarsus	0.36	0.47	0.48	0.69	0.25
Tarsus	0.53	0.40	0.40	0.47	0.25
Total	4.68	2.84	2.58	3.99	2.02

group of Rowland 1972*a, b*). It differs from other species of the group by its unique flagellum. It also has 2 pairs of dorsal prosomal setae while the other members of the *briggsi* group have 3 pairs or (*Schizomus shoshonensis* (Briggs and Hom)) only 1 pair.

ETYMOLOGY.—The specific name refers to the type locality (Arroyo Seco Campground, Los Padres National Forest, Monterey County, California).

DESCRIPTION.—*Male.* Color pale brownish with a grayish-green tint that disappeared after a year in alcohol storage. Prosoma with 2 pairs of dorsal and 3 apical setae. Eyespots elongate and indistinctly delineated. Metapeltidium with definite split (Fig. 6). Mesopeltidial plates separated by approximately width of 1 plate (Fig. 6). Abdomen not attenuated, terga I and II with 4 small anterior setae, terga I–VII with 2 posterior setae, terga VIII–IX with 4 posterior setae, tergum XII with well-developed, acute posterodorsal process (Fig. 4, 5). Vestigial stigmata slightly darker than sterna. Anterior sternum with 15 setae, posterior sternum with 6.

Flagellum (Fig. 1–3) roughly pentagonal or hexagonal with dorsal median longitudinal ridge flanked mesally by 2 shallow depressions and a basal median furrow flanked by 2 large, distinct median lobes.

Pedipalpal trochanter (Fig. 7) uniformly produced distally, without process on mesal margin. Tibia (Fig. 8) with mesal subapical spur. Tarsal-basitarsal spurs about $\frac{1}{2}$ length of segment, claw about $\frac{1}{2}$ length (Fig. 8).

Measurements (in millimeters): Body length, 4.37; prosoma length, 1.17, width, 0.70; flagellum length (to opisthosoma), 0.50, width, 0.43. Appendage measurements listed in Table 1.

Female. Color brown with grayish-green tinge.

Prosoma similar to that of male. Abdominal setation similar to that of male except anterior sternum with 16 setae and posterior sternum with 5.

Spermathecae (Fig. 9) with 5 or 6 lobes joined at their bases.

Flagellum bears 13 setae on 4 articles.

Pedipalpal morphology and setation similar to that of male, but without tibial spur.

Measurements (in millimeters): Body length, 4.47; prosoma length, 1.15, width, 0.63; flagellum length, 0.35. Appendage measurements listed in Table 2.

Juveniles. Color pale brown with grayish-green tinge. Male juvenile with partially developed flagellum bearing 13 setae; anterior sternum with 16 setae and posterior sternum with 6. Two female juveniles with flagella bearing 13 setae and posterior sterna bearing 5 setae, one with 13 setae on anterior sternum and the other with 17.

Body length of male juvenile, 3.7 mm; body length of both female juveniles, 3.5 mm.

MATERIAL EXAMINED.—Holotype male and one male juvenile: California: Monterey County, Los Padres National Forest, west side of Arroyo Seco Campground at The Lakes, 3 April 1985, T. Briggs, T. Ohsumi, W. Rauscher, and D. Ubick. Female paratype and two female juveniles: same locality, 22 April 1986, T. Briggs, A. Jung, J. Jung, and K. Hom.

Notes. The pedipalps are not elongated in the holotype and the male juvenile, but males with elongate pedipalps possibly exist as is the case for some males of other species in the *briggsi* group.

Schizomus belkini (McDonald and Hogue)

Trithyreus belkini McDonald and Hogue, 1957:1–7; Briggs and Hom 1966:270, 273–274; Hom 1967:216–220; Rowland 1971:304, 308–309; Briggs and Hom 1972:2; Rowland 1972*a*: 1, 4, 5, 7, 8; Rowland 1972*b*:153, 155, 156, 158, 159.

Schizomus belkini: Rowland and Reddell, 1979:162; Bennett, 1985:321.

NEW RECORDS.—California: San Luis Obispo County: 7.3 mi w. Pozo, 3 April 1985, under serpentine in oak-digger pine chaparral, T. Briggs, T. Ohsumi, W. Rauscher, and D. Ubick (6 females, 1 male, 4 juveniles); 1 mi e. Highway 41 on Old Morro Road, 3 April 1985, under serpentine on oak-grassland slope, T. Briggs, T. Ohsumi, W. Rauscher, and D. Ubick (2 females, 1 male, 1 juvenile); 5.3 mi w. of Los Osos Valley Road (San Luis Obispo) on Prefumo Canyon Road, 14 February 1987, under serpentine on grassland slope, T. Briggs and V. F. Lee (1 male, 1 female); 1.2 mi e. Highway 1 (Morro Bay) on Toro Creek Road, 14 February 1987, under serpentine on grassland, T. Briggs and V. F. Lee (2 males, 3 females); 2.6 mi n. Highway 1 (near Cayucos) on Thunder Canyon Road, 14 February 1987, under serpentine on grassland slope, T. Briggs and V. F. Lee (1 male with elongate pedipalps, 1 female, 1 female juvenile).

Notes. The 2 male specimens from these localities have the same shape of flagellum as the typical *S. belkini* but with slightly more prominent relief on the dorsum of the flagellum. In other respects the specimens resemble topotypical examples of *S. belkini*. Females have the four separate spermathecal lobes of typical female *S. belkini*.

DISTRIBUTIONAL NOTES.—These new records require that the dispersal theory for the biogeography of Schizomida in California and Arizona proposed by Rowland (1972*b*) be revised for central California. Rowland suggested that a Pliocene embayment, extending to the San Joaquin Valley, provided a barrier preventing the northward dispersal of schizomids along the coast. This is no longer likely due to the discovery of *S. secoensis* and *S. belkini* north of that barrier. As suggested by Rowland, if this barrier could be crossed by schizomids, then the San Rafael and Santa Lucia mountains to the north should con-

tain suitable habitats. Vicariance biogeography could just as well explain the distribution of these schizomids. The original range of an ancestral form may have been fragmented by geological and climatological changes that led to eventual speciation.

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